

Docket No. F-9186

Ser. No. 10/588,668

AMENDMENTS TO THE CLAIMS:

Please replace the claims with the claims provided in the listing below wherein status, amendments, additions and cancellations are indicated.

1. (Currently amended) A laminated solar battery, comprising:
different types of solar cell modules each having a respectively different sensitivity wavelength band and each configured generally in a form of a layer, said solar cell modules being incorporated as an integrally laminated structure in which the solar cell modules are consecutively layered in the laminated structure, with a one said layer overlaying another said layer of respective ones of said solar cell modules, from a one of said solar modules having a shortest center wavelength of the sensitivity wavelength band to another of the solar modules having a longest center wavelength of the sensitivity wavelength band, said one of said modules having the shortest center wavelength in said sensitivity wavelength band being positioned closest[[,]] to an incidental side of said laminated structure which is adapted to being exposed to sunlight, at least one of said different types of said solar cell modules comprising a cell group module including nearly spherical solar cells aligned in columns and rows as at least one array of said solar cells, each said at least one array being extended crosswise to a thickness direction of a corresponding said layer comprising said cell group module; and

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a serial connection circuit which electrically connects said solar cell modules, said solar cell modules being configured such that an output current of each of said solar modules is approximately equal to one another.

2. (Previously presented) The laminated solar battery according to claim 1, wherein at least one type of said different types of said solar cell modules is comprised of at least one planar light receiving module having a planar common pn junction.

3. (Previously presented) The laminated solar battery according to claim 1, wherein:

said solar cell modules include four types of said solar cell modules, three types of said four types of said solar cell modules are comprised of cell group modules each of which includes nearly spherical solar cells aligned in columns and rows, and

a remaining one type of said four types of said solar cell modules is comprised of a planar light receiving module having a planar common pn junction.

4. (Previously presented) The laminated solar battery according to claim 1 or 2, wherein said solar cells aligned in said columns and said rows in said cell

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group module are electrically connected via lead wires extending in a columnar direction or a row direction and led to an outside.

5. (Previously presented) The laminated solar battery according to claim 4, wherein each said cell group module is provided with a serial/parallel connection circuit for electrically connecting said solar cells in serial and parallel by means of said lead wires.

6. (Previously presented) The laminated solar battery according to claim 2, wherein an output current of each said cell group module is nearly equal to an output current of said planar light receiving module.

7. (Previously presented) The laminated solar battery according to claim 1, wherein:

each said cell group module includes two layers of said nearly spherical solar cells aligned in columns and rows on a plane, and

said nearly spherical solar cells are arranged in said two layers to approach one another without overlapping in a plan view.

8. (Previously presented) The laminated solar battery according to claim 2, further comprising a reflective member capable of reflecting the sunlight in a lower

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part or downside of said planar light receiving module, said at least one planar light receiving module being arranged in a lowest layer to be located downside of said cell group module.

9. (Previously presented) The laminated solar battery according to claim 7, wherein any of said solar cell modules except for said one of said solar cell modules at the incidental side of said laminated structure which is adapted to being exposed to sunlight is provided, on a surface thereof, with a mirror film that reflects a light of sensitivity wavelength bands which can be easily absorbed by ones of the solar cell modules above said any of said solar cell modules.

10. (Previously presented) The laminated solar battery according to claim 7, wherein said solar cells are received in a buried state inside transparent glass or synthetic resin material, in said cell group modules.

11. (Previously presented) The laminated solar battery according to claim 7, further comprising a transparent member made of transparent glass or synthetic resin material which is fixed at a top of said solar cell module on said one of said solar cell modules at the incidental side of said laminated structure which is adapted to being exposed to sunlight.

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12. (Previously presented) The laminated solar battery according to claim 3, wherein:

 said planar light receiving module is arranged in a lowest position below said multiple cell group module, and said three types of solar cell modules include first to third cell group modules thereof laminated sequentially from said incidental side of sunlight,

 said first cell group module includes first solar cells each of which has a nearly spherical pn junction on a surface resin of a nearly spherical GaP single crystal,

 said second cell group module includes second solar cells each of which has a nearly spherical pn junction on a surface resin of a nearly spherical GaAs single crystal, and

 said third cell group module includes third solar cells each of which has a nearly spherical pn junction on a surface resin of nearly spherical Si single crystal.

13. (Previously presented) The laminated solar battery according to claim 12, wherein said planar light receiving module includes a planar common pn junction formed in an InGaAs semiconductor layer which is formed on an n-type InP semiconductor substrate.

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14. (Previously presented) The laminated solar battery according to claim 3, wherein:

said planar light receiving module is arranged in a top layer above said three types of solar cell modules, and said three types of solar cell modules include first to third cell group modules thereof laminated sequentially from said incidental side of sunlight,

said first cell group module includes first solar cells each of which has a nearly spherical pn junction on a surface resin of a nearly spherical GaAs single crystal,

said second cell group module includes second solar cells each of which has a nearly spherical pn junction on the surface resin of a nearly spherical Si single crystal, and

said third cell group module includes third solar cells each of which has a nearly spherical pn junction on the surface resin of a nearly spherical Ge single crystal.

15. (Previously presented) The laminated solar battery according to claim 14, wherein said planar light receiving module includes a planar common pn junction formed in a GaAsP semi-conductor layer which is formed on an n-type GaP semiconductor substrate.

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16. (Previously presented) The laminated solar battery according to claim 2, wherein:

 said at least one planar light receiving module includes two types of planar light receiving modules, and

 one or more cell group modules are incorporated between said two types of planar light receiving modules.

17. (Previously presented) The laminated solar battery according to claim 1, wherein:

 said different types of solar cell modules are each formed in a general shape of a cylinder, and

 said solar cell modules are laminated in a general shape of a concentric cylinder.